

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: FAIL-SAFE

Report Number: P311381

Luminaire Tested: **24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-2700K**

Issue Date: 3/3/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P311381  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1805-783-1)  
Test Lab: INNOVATION CENTER(G3)  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: 24FCZ2-40HE-UNV-L82765-S-CP250-W2A-U-2700K  
Description: 2'X4' TROFFER LED MODULE, SMOOTH LENS, 0.250" POLYCARB SHEET  
Light Source: (336) 2700K TUNABLE CCT, 80 CRI LEDS  
Ballast/Driver: ELECTRONIC DRIVER  
Luminaire Equipment: 

<u>Sample No.</u>	<u>Condition</u>	<u>Description</u>
AS-5443-1	Good	WHITE TWIN R-EVOLVE FLOOD
AS-5443-2	Good	REFLECTOR
AS-5443-3	Good	DRIVER
AS-5443-4	Good	UPPER MODULE
AS-5443-5	Good	LENS
AS-5443-6	Good	DRIVER 2
AS-5443-7	Good	TRIM RING

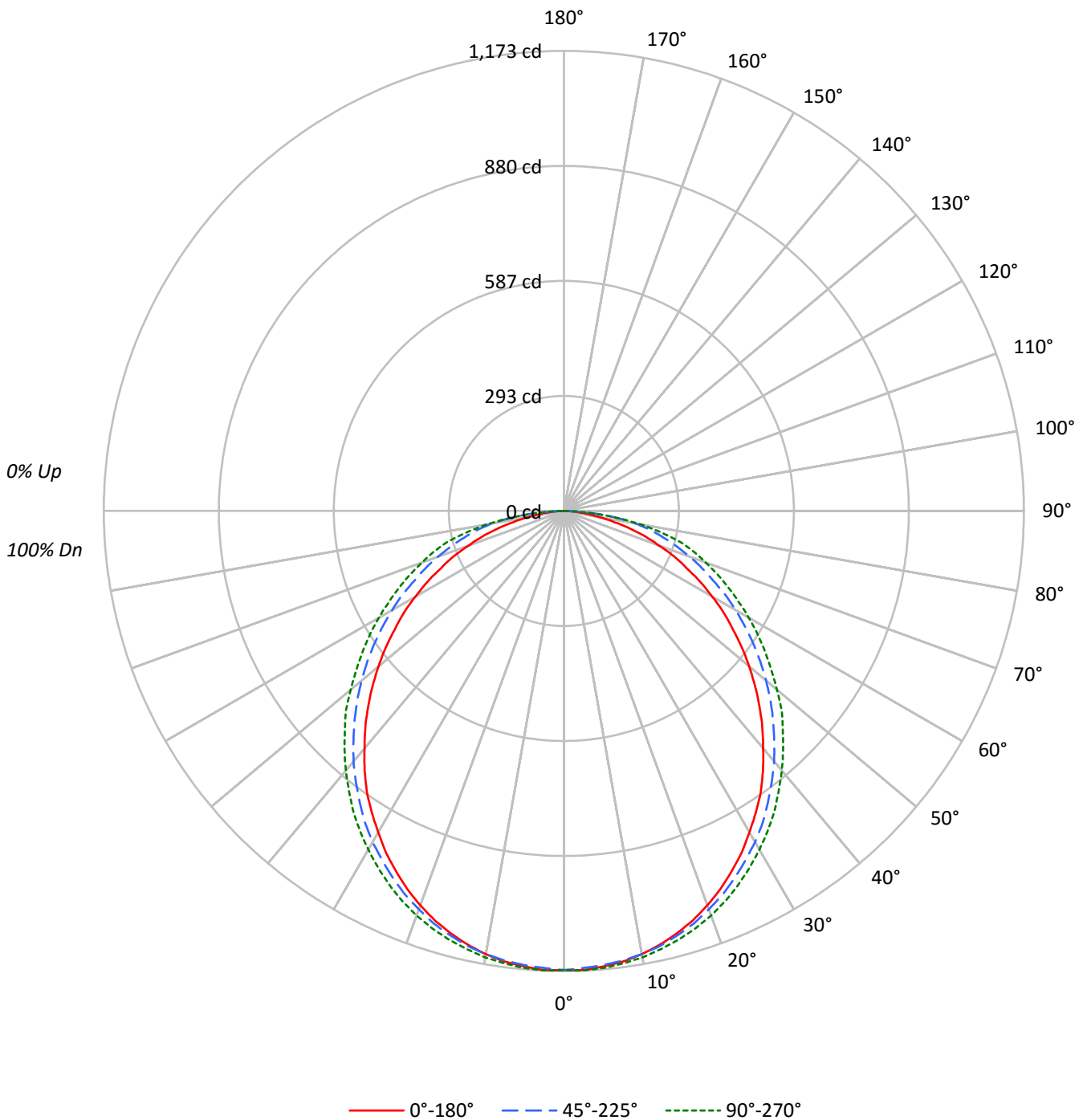
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3332.0 lumens  
Efficiency: N/A  
Efficacy: 109.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.35  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 30.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	99	95	106	101	97	93	97	93	90	93	90	88	89	87	85	83
2	98	90	83	77	96	88	81	76	84	79	74	81	76	72	78	74	71	69
3	89	79	70	64	87	77	69	63	74	67	62	71	66	61	69	64	60	58
4	82	70	61	54	80	68	60	54	66	59	53	63	57	52	61	56	51	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	42
6	70	56	47	40	68	55	47	40	53	46	40	52	45	40	50	44	39	37
7	64	51	42	36	63	50	42	36	48	41	35	47	40	35	46	39	35	33
8	60	46	38	32	58	46	37	32	44	37	32	43	36	31	42	36	31	29
9	56	43	34	29	55	42	34	29	41	34	28	40	33	28	39	33	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	24

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	1575	1575	1575
5°	1574	1570	1580
10°	1567	1567	1579
15°	1552	1560	1576
20°	1532	1547	1571
25°	1504	1532	1562
30°	1470	1514	1549
35°	1438	1490	1537
40°	1389	1465	1519
45°	1343	1436	1502
50°	1292	1409	1484
55°	1234	1383	1470
60°	1176	1361	1467
65°	1102	1338	1476
70°	1020	1345	1515
75°	913	1370	1601
80°	738	1451	1566
85°	556	1275	1241



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.8	3.3
10°-20°	316.6	9.5
20°-30°	476.0	14.3
30°-40°	567.0	17.0
40°-50°	580.3	17.4
50°-60°	522.4	15.7
60°-70°	410.3	12.3
70°-80°	266.3	8.0
80°-90°	82.3	2.5
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	903.4	27.1
0°-40°	1470.4	44.1
0°-60°	2573.1	77.2
0°-90°	3332.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3332.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1171	1171	1171	1171	1171	
5°	1165	1167	1162	1168	1170	111
15°	1114	1118	1120	1129	1131	314
25°	1013	1021	1032	1049	1052	467
35°	875	886	907	929	936	546
45°	706	723	755	783	790	544
55°	526	549	590	620	627	472
65°	346	372	420	455	464	345
75°	176	210	264	300	308	186
85°	36	67	83	80	80	43
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1170.6	1170.6	1170.6	1170.6	1170.6
2.5°	1171.6	1171.6	1166.3	1171.6	1172.7
5°	1165.3	1167.4	1162.1	1168.4	1169.5
7.5°	1158.9	1158.9	1155.7	1162.1	1163.1
10°	1147.3	1148.3	1147.3	1154.7	1155.7
12.5°	1132.5	1134.6	1135.6	1143.0	1144.1
15°	1114.5	1117.6	1119.8	1129.3	1131.4
17.5°	1094.4	1097.5	1102.8	1113.4	1115.5
20°	1070.0	1074.2	1080.6	1094.4	1097.5
22.5°	1043.5	1047.8	1058.4	1071.1	1076.4
25°	1012.9	1021.3	1031.9	1048.8	1052.0
27.5°	982.2	989.6	1003.3	1021.3	1025.6
30°	946.2	957.8	974.8	992.7	997.0
32.5°	911.3	922.9	943.0	962.1	967.3
35°	875.3	885.9	907.0	929.2	935.6
37.5°	834.0	847.8	871.0	893.3	899.6
40°	790.6	807.5	834.0	857.3	864.7
42.5°	749.3	767.3	793.8	819.2	827.6
45°	705.9	722.9	754.6	783.2	789.5
47.5°	661.5	680.5	714.4	743.0	753.6
50°	617.0	637.1	673.1	702.8	709.1
52.5°	572.6	593.7	631.8	663.6	666.8
55°	526.0	549.3	589.5	620.2	626.6
57.5°	483.7	503.8	547.2	578.9	586.3
60°	437.1	459.3	505.9	535.5	545.1
62.5°	392.7	415.9	464.6	494.3	502.7
65°	346.1	372.5	420.2	455.1	463.6
67.5°	305.9	331.3	382.1	415.9	424.4
70°	259.3	287.9	341.9	376.8	385.2
72.5°	219.1	248.7	302.7	336.6	349.3
75°	175.7	209.6	263.5	299.5	308.0
77.5°	133.4	172.5	227.5	255.1	255.1
80°	95.3	136.5	187.3	200.0	202.1
82.5°	62.4	102.7	138.6	137.6	137.6
85°	36.0	66.7	82.6	80.4	80.4
87.5°	13.8	27.5	29.6	29.6	28.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)